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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/040,129	01/02/2002	Cory R. Carpenter	BEA920010029US1	8791
30011	7590	05/05/2005	EXAMINER	
LIEBERMAN & BRANDSDORFER, LLC 12221 MCDONALD CHAPEL DRIVE GAIITHERSBURG, MD 20878			HUYNH, CONG LAC T	
			ART UNIT	PAPER NUMBER
			2178	
DATE MAILED: 05/05/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/040,129	CARPENTER, CORY R.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Cong-Lac Huynh	2178	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM  
 THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) Responsive to communication(s) filed on 21 January 2005.  
 2a) This action is **FINAL**.                            2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) Claim(s) 1-21 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-21 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_.  
 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_.  
 5) Notice of Informal Patent Application (PTO-152)  
 6) Other: \_\_\_\_\_.

## DETAILED ACTION

1. This action is responsive to communications: amendment filed 1/21/05 to the application filed on 1/02/02.
2. Claims 1-21 are pending in the case. Claims 1, 9, 15, 19 are independent claims.
3. The objection of the title has been withdrawn since the misspelled word "identifier" within the title is found in the bibliographic data sheet, not in the specification of the application.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-21 remain rejected under 35 U.S.C. 102(b) as being anticipated by Jang et al., *An Effective Mechanism for Index Update in Structured Documents*, ACM 1999, pages 383-390.

Regarding independent claim 1, Jang discloses:

- following hierarchy of said data structure to reach a root of said data structure  
**(page 384, section 2.1 Unique element identifier (UID):** traversing the structured document according to the order of the level-order tree implies

traversing from the root to an element of the structured document where said element is considered equivalent to a target object; this inherently shows reaching the root of the structured document, which is the hierarchy, is performed before the traversal)

- traversing the data structure from said root until a target object is encountered  
**(page 384, section 2.1 Unique element identifier (UID):** traversing the structured document according to the order of the level-order tree implies traversing from the root to an element of the structured document where said element is considered equivalent to a target object)
- dynamically generating said identifier from a location of said target in said data structure **(page 384, section 2.1 Unique element identifier (UID) and 2.2 Indexing and retrieval with UID:** assigning each encountered element in the structured document a UID according to the order of the level-order tree traversal and during the scanning through the document)
- delivering said identifier to client workstation **(page 387, Retrieval:** retrieval of a user query is for delivering an answer to a query to a user, thus retrieval of a user query on an identifier of a target object in a document is for delivering said identifier to a user at client workstation)

Regarding claim 2, which is dependent on claim 1, Jang discloses incrementing a counter when a specified branch of the data structure is encountered (page 385, figure 2: counter c1 increments to c2 when a specified branch of the structure is encountered).

Regarding claim 3, which is dependent on claim 1, Jang discloses that traversing the data structure includes clearing a counter when a specified branch of the data structure is closed (page 385, figure 2: clearing a counter when the branch (c1, s1, p1-p3) is closed).

Regarding claim 4, which is dependent on claim 1, Jang discloses traversing the data structure includes recursively traversing the data structure (**page 385, last paragraph to page 386, 2<sup>nd</sup> paragraph**: assigning the UIDs to the elements of the structure document *during the traversal* where the UIDs reflect the *parent-child relationships* among the elements inherently shows recursively traversing. The reason is that it was known that each node above a target node is recursively determined and included in the document in walking up the tree. And also, it was known that each node below a target node is recursively determined and included in the document in walking down the tree).

Regarding claim 5, which is dependent on claim 1, Jang discloses updating said reference identifier to reflect changes in said data structure (page 386, 4.2 Changes in element structures, figure 6, page 387, 4.3 Update of postings: the UID is changed when the structured document is changed by insertion and deletion).

Regarding claim 6, which is dependent on claim 5, Jang discloses that updating said reference identifier includes resetting an index for said data structure when content of said data structure is amended (page 386, 4. Update of indices, 4.1 Change in element

content: update the indices and UIDs when the content of the structured document is changed by insertion or deletion).

Regarding claim 7, which is dependent on claim 6, Jang discloses that the amended content includes content selected from the group consisting of: inserted content, removed content, and reorganized content (page 384, 2<sup>nd</sup> paragraph, page 386, 4.

Update of Indices, 4.1 Change in element content, and 4.2 Changes in element structures).

Regarding claim 8, which is dependent on claim 1, Jang discloses that said data structure is a standardized mark-up language (page 385, figure 4: SGML/XML documents, page 390, 7. Conclusion and future works).

Claims 9-14 are for a system of method claims 1-3, 5-8, and are rejected under the same rationale.

Claims 15-18 are for an article of method claims 1-3, and are rejected under the same rationale.

Regarding independent claim 19, Jang discloses:

- following hierarchy of said data structure to reach a root of said data structure (page 384, section 2.1 Unique element identifier (UID): traversing the

structured document according to the order of the level-order tree implies traversing from the root to an element of the structured document where said element is considered equivalent to a target object; this inherently shows reaching the root of the structured document, which is the hierarchy, is performed before the traversal)

- traversing the data structure from said root until a target object is encountered

(**page 384, section 2.1 Unique element identifier (UID):** traversing the

structured document according to the order of the level-order tree implies

traversing from the root to an element of the structured document where said

element is considered equivalent to a target object)

- wherein the step of traversing the data structure includes changing a counter when a branch of said data structure is encountered (page 385, figure 2)
- generating said identifier from a location of said target in said data structure

(**page 384, section 2.1 Unique element identifier (UID):** assigning each

encountered element in the structured document a UID)

Regarding claim 20, which is dependent on claim 19, Jang discloses clearing said counter when a specified branch of said data structure is closed and a target object is null, and incrementing said counter when a specified branch of said data structure is encountered (page 385, figure 2: when branch c1 with nodes c1, s1, s2, p1-p3 is closed and the target node is null, the counter p(n) is cleared, and c1 is incremented to c2 when the branch starting with node c2 is encountered).

Regarding claim 21, which is dependent on claim 19, Jang discloses updating said reference identifier to reflect changes in said data structure (page 386, 4.2 Changes in element structures; page 387, 4.3 Update of postings).

### ***Response to Arguments***

6. Applicant's arguments filed 1/21/05 have been fully considered but they are not persuasive.

Applicants argue that the identifier in Jang is a statically generated identifier since each element in the tree structure of Jang is assigned an identifier according to the location of the element in the tree. Applicants state that the identifier of Applicants is dynamically generated in that it produces "in response to a query" whereas in Jang, the identifier is generated in response to creating a document (Remarks, page 7).

Examiner respectfully disagrees.

Claim 1 requires dynamically generating the identifier of a target object in a data structure upon traversing the data structure (steps b and c). Accordingly, the dynamism of the generating step must be based on said traversing.

Jang discloses that the UID (Unique element Identifier) is assigned to each element in the document according to the order of the level-order tree traversal (page 384, section 2.1 Unique element identifier (UID)). Jang further discloses the UID of each element in the document is assigned during the scanning through of the document, which is equivalent to traversal of the document (page 384, 2.2 Indexing and retrieval with UID).

These features in Jang show that the element identifier is generated dynamically during the traversal of the document as claimed.

Jang also discloses that the identifier of an element in a data structure is provided to users in response to a user query (pages 383, 387). Therefore, said identifier in Jang is generated dynamically for rendering to the user as argued.

Regarding claims 2, 3, 10, 11, 17, 18, 19, 20, Applicants argue that Jang does not teach the counter and the incrementation of the counter when a query match occurs or clearance of the counter when a branch of data structure is closed since the accumulator of Jang is statically generated and is not generated in response to a query request (Remarks, page 8).

Examiner respectfully disagrees.

Jang does teach the counter and the incrementation as claimed. See the claim rejections. The argument is not relevant since the counter and the incrementation as *claimed* relate to traversing the data structure, not in response to a query request. For example, in claims 2, 3, the counter and the incrementation do not have anything involved with “in response to a query request.” Instead, they are merely a conventional counter and a conventional incrementation when traversing nodes in a tree structure. In claims 10-11, the counter and the incrementation are “responsive to said manager” (line 1 of these claims), not “in response to a query request” as argued. When traversing the data structure in Jang, it is clear that there are the counter and the incrementation for each node in the traversing path (page 385).

***Conclusion***

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Itoh et al. (US Pat No. 6,741,242 B1, 5/25/04, 7/17/00).

DeRose et al. (US Pat No. 6,546,406 B1, 4/8/03, 11/12/98).

DeRose et al. (US Pat No. 5,893,109 B1, 4/6/99, 3/15/96).

Lee et al., Index Structures for Structured Documents, ACM 1996, pages 91-99.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cong-Lac Huynh whose telephone number is 571-272-4125. The examiner can normally be reached on Mon-Fri (8:30-6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Hong can be reached on 571-272-4124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-4125.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Cong-Lac Huynh  
Examiner  
Art Unit 2178  
4/25/05

***Conclusion***

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